1001-05-344 **Allen Knutson*** (`allenk@math.berkeley.edu`) and **Alexander Yong** (`ayong@math.berkeley.edu`). *Kogan's and Buch's problems via transition.*

Misha Kogan selected a strange-looking subset of the "Schubert polynomial times Schur polynomial" class of problems: the Schubert polynomial shouldn't mention any of the variables the Schur doesn't. In particular, it includes the usual Littlewood-Richardson problem, in which the Schubert polynomial is another Schur polynomial, in the same number of variables.

We use the transition formula for Grothendieck polynomials (which is given a geometric explanation in Alex Yong's talk) to give a satisfying explanation of the naturality of Kogan's condition, while giving a simpler derivation, and one which extends to K-theory (but not equivariantly!).

Our rule is in terms of "marching moves" on the diagram of a permutation. (Received August 31, 2004)